

## ENVIRONMENTAL IMPACT QUESTIONS

To demonstrate that the environmental impacts resulting from the project included in this modification request have been considered, the following "Environmental Impact Questions" have been addressed by Flakeboard America Limited:

**Q. Have the potential and real adverse environmental effects of the proposed facility been avoided to the maximum extent possible?**

**(i) What are the potential environmental impacts of the permittee's facility?**

During day-to-day operations, the LPB Plant creates industrial waste and general trash. The industrial waste and general trash are transported offsite and disposed of in a permitted industrial landfill.

TAPs including formaldehyde, methanol, phenol, acrolein, and others in minimal amounts are released to the atmosphere during the production process. RTOs are installed to significantly reduce the TAP emissions from the refining, steaming, drying, and pressing processes. It should be noted that the emissions increases associated with the proposed laminate press lines project will not change the source classification status of the facility.

**(ii) By which potential pathways could releases of hazardous materials from the facility endanger local residents or other living organisms?**

A. All potentially hazardous materials are stored within buildings. Spill kits are located within the storage area making it very unlikely for material to migrate offsite and endanger local residents or other living organisms via water, soil, or food. Approximately ninety percent of the TAPs generated during the refining, steaming, drying and pressing processes are destroyed by the RTOs prior to emission to the atmosphere. Production processes proposed in this application will not create any potential hazardous that could endanger local residences or other living organisms.

**(iii) What is the likelihood or risk potential of such releases?**

A. The likelihood or potential of any release occurring is very minimal due to the operating procedures established (and proposed within the application) at the facility.

**(iv) What are the real adverse environmental impacts of the permittee's facility?**

A. Flakeboard has made efforts to engineer controls (physical as well as electronic) to prevent environmental impacts such as spills or excess air emissions that could be realized from daily operations of a particleboard plant. The new press lines will be subject to MACT standards and will demonstrate compliance upon start-up of the new process.

In addition to engineering controls, Flakeboard makes on-going, day-to-day efforts to minimize the LPB Plant's adverse effects on environmental quality as part of the company's

environmental compliance program. The program emphasizes preventative measures, daily surveillance, on-going operational improvements, and personal training to minimize both short and long-term adverse environmental effects.

**Q. Does a cost benefit analysis of the environmental impact cost balanced against the social and economic benefits of the proposed facility demonstrate that the latter outweighs the former?**

**(i) How was it determined that this facility was needed?**

A. The LPB Plant is an existing particleboard manufacturing facility located near Simsboro, Louisiana in Lincoln Parish. A survey performed by Flakeboard identified the potential for an increase in laminated board market demand. The installation of the press lines will allow the facility to produce assorted laminated products in a more cost efficient manner than other manufacturers, as it will utilize the particleboard manufactured at the plant as the substrate. The availability of laminated products will expand the facility's existing customer base and allow the facility to establish a new customer base as well.

**(ii) What will be the positive economic effects on the local community?**

A. New employment opportunities for the local community will be created with the addition of the laminating lines. It is estimated that a total of 32 to 36 new permanent jobs will be established as a result of the laminate press lines installation.

**(iii) What will be the possible negative economic effects on the local community?**

A. The existing facility should not have any adverse effects on the local community. The areas adjacent to the facility are also industrial developments as well as timber and pasture lands. Property values in the immediate area should remain unaffected, and no business or industry should preclude economic development because of risk associated with establishing operations adjacent to the facility

The LPB Plant is owned by Flakeboard, with no financial backing coming from any additional groups. The existing facility has been recently modernized by the previous owner (Weyerhaeuser Company) so that the facility will remain competitive and continue to operate for many years. Flakeboard will be responsible for closure of the facility, but no closure plans have been made at the present time. If ever a decision is made to shut down the facility, a closure plan will be submitted to the state, and the site will be returned to its original condition. The site will be inspected for closure by the state. The deed will be modified to reflect that a manufacturing facility was formerly located on the property.

**(iv) Was transportation a factor in choosing the proposed site?**

A. Yes, the finished products are currently transported from the facility using truck and rail. The existing facility is located near US Interstate 20 and the existing infrastructure is

capable of handling the traffic volume. The primary market for LPB Plant's products, particleboard and melamine laminated particleboard, is the southern and midwestern states.

**Q. Are there alternative projects which would offer more protection to the environment than the proposed facility without unduly curtailing non-environmental benefits?**

**(i) Why was this technology chosen?**

A. As stated earlier, the infrastructure of the LPB Plant is currently in place. Effort is made in the manufacturing process to ensure that all possible negative environmental impacts are minimized. Air emissions from the curing of the laminate are subject to Subpart QQQQ (Surface Coating MACT) and will be able to demonstrate compliance upon start-up by using the complaint material option. Other options in coating operations usually require a control device to reduce emissions for MACT compliance. Flakeboard has determined that the melamine laminate overlay provides a superior product, while complying with the applicable environmental standards established for this industry. In addition, Flakeboard will be installing a baghouse to capture and properly dispose of the particulate generated during the finishing of the laminated product.

**(ii) Describe the reliability of the technology chosen.**

A. No new manufacturing technologies are actually employed. Technologies that are employed for the reduction of air emissions have been utilized throughout this industry as well as other industries, although the melamine laminate overlay has been recognized by the EPA to have a much lower emission rate of HAPs than most other comparable surface coating products used.

**(iii) Describe the sequence of technology used from the arrival of wastes to the end process at the facility.**

A. No wastes are actually processed at the facility. Manufacturing material is received in bulk and stored onsite until used in the production process. A concerted effort is made to recycle all excess material back into the manufacturing process. A PFD of the manufacturing process is included in **Appendix A** of this application.

Wastes generated at the facility are disposed of as required. Hazardous waste, if any is generated, is transported offsite and either disposed of properly or treated. Upon installation of the new production line, the amount of hazardous waste generated at the facility significantly decreased. Waste profiles are created and updated as necessary, and industrial waste and general trash are transported offsite and disposed of in a permitted industrial landfill.

**(iv) What consumer products are generating the waste to be disposed? Are there alternative products that would entail less hazardous waste generation?**

A. Industrial waste generated at the facility is inherent to any particleboard and laminated wood product manufacturing process. Waste profiles are created and updated as necessary. All industrial trash as well as general office trash is disposed of in a permitted industrial landfill.

**Q. Are there alternative sites which would offer more protection to the environment than the proposed facility site without unduly curtailing non-environmental benefits?**

**(i) Why was this site chosen?**

A. The infrastructure for the manufacturing of particleboard is already in place at the LBP Plant and has available space to install the two new press lines. By using this existing facility that has recently been modernized, a new site will not have to be selected and major construction performed. Various other existing facilities were evaluated for the proposed laminated press lines project; however, the LPB Plant was selected because of its infrastructure.

**(ii) Is the chosen site in or near an environmentally sensitive area?**

A. As stated earlier the site is already in existence and is located near other industrial manufacturing facilities. The site is not located in or near any wetlands, estuaries, critical habitat, or historic or culturally significant areas.

**(iii) What is the zoning and existing land-use of the prospective site and nearby area?**

A. As stated above, the LPB Plant is located near other industrial manufacturing facilities. Timber and pasture lands are also located adjacent to the LPB Plant. There is no precedent for the soil or groundwater to be contaminated at the site.

**(iv) Is the site flood prone?**

A. The LPB Plant is not located within a defined flood plain. As per the 1986 United States Geological Survey (USGS) quadrangle maps of the Simsboro, Louisiana vicinity, the facility is located at an elevation in excess of 350 feet above sea level.

No diking is required for the diversion of stormwater runoff since the facility drainage pattern has been established to runoff to permitted stormwater outfalls Louisiana Pollutant Discharge Elimination System under the Light Commercial General Permit (LPDES Permit No. LAG480000).

Because of its location in north Louisiana, the site is not considered vulnerable to hurricane activity.

**(v) Is the groundwater protected?**

A. The LPB Plant currently utilizes a water well for the supply of its process water. The water from the wells is not used for human consumption. Bottled water and water supplied by the Simsboro Water System are available throughout the facility for consumption by the employees.

As per the drilling log, the wells are completed in the Sparta Aquifer at a depth of approximately 600 feet below ground surface. The top of the Sparta Aquifer is bound by a 50-foot thick hard shale and the base is bound by a thicker hard shale. The Cockfield Formation, which is primarily used for irrigation, is located above the Sparta Aquifer, but the two aquifers are not hydraulically connected. The Sparta Aquifer is used throughout Lincoln Parish as its public drinking water supply.

Flakeboard America Limited (at the time known as Willamette Industries – SurePine Division) submitted a ground water certification review package on March 1, 2001, in association with the previous air permit modification proposing to construct and operate the new production line and pollution control equipment. Mr. Steve Archibald of LDEQ's Northeast Regional Office met with Flakeboard personnel on March 15, 2001 to review the proposed construction area and to recommend the sampling parameters to be analyzed, if deemed necessary, based upon mill activities and proposed construction layout. It was determined that three groundwater samples were required since the new production building and equipment foundations involved subsurface construction on existing property used for industrial purposes. Results from the groundwater sampling indicated no contamination from previous manufacturing activities.

A Phase II sampling event also took place during the sale of the facility from Weyerhaeuser to Flakeboard. Again, results reflected no historical contamination has occurred from manufacturing operations at this location. Furthermore, most of the existing and proposed areas are paved or have asphalt surface that prevents spilled material from directly contacting the soil and migrating to the groundwater.

**(vi) Does site pose potential health risks as defined by its proximity?**

A. As stated earlier, the LPB Plant is an existing facility located near other industrial manufacturing facilities. No potential health risks exist to the timber and pasture land located adjacent to the LPB Plant. There are no residential developments, schools, hospitals, prisons, etc. located near the facility.

**(vii) Is air quality protected?**

A. The site is located in Lincoln Parish near Simsboro, Louisiana and is not in either an ozone or non-attainment area. Emissions from the facility include PM, CO, NO<sub>x</sub>, SO<sub>x</sub>, VOCs, and TAPs. The facility is a major source for air toxics.

The emissions from the refining, steaming, drying and pressing processes are routed to RTOs for the destruction of VOCs and TAPs as well as a reduction in PM emissions. The RTOs provide a removal efficiency of ninety percent for both VOCs and TAPs and eighty-five percent for PM and formaldehyde. Baghouses are used throughout the material handling and transfer process for the reduction of PM emissions. The baghouses in service at the LPB Plant have a removal efficiency of 99.9 percent. In addition, the raw material is stored inside in an effort to reduce fugitive PM emissions as well as improve the quality of the stormwater runoff. Emissions associated with the proposed melamine laminate press line operations are of the same nature of the existing particleboard manufacturing emissions.

There is very little potential for the release of unregulated emissions throughout the either manufacturing processes. Should such an event occur, a full report including the cause of the release, the length of the release, the amount of pollutants released, and the corrective action measures taken to prevent the reoccurrence of such an event are reported immediately to LDEQ.

The LPB Plant manufactures particleboard from waste wood material and liquid resin. There are no materials that are used in the production process that would cause the emission of obnoxious odors. There are no resins used in the proposed laminate press operations; therefore, there will be no odor control employed at the LPB Plant.

The LPB Plant is adjacent to timber and pasture land on the north, south, and east. Manufacturing facilities are located to the west of the plant. During the late fall and winter months, the wind is prevalent from the northwest. During the late spring and summer months, the wind is primarily from the southeast. Periods of little wind occasionally occur during the late summer months when both the temperature and relative humidity are high.

The majority of VOCs and TAPs are created during the steaming, drying and pressing operations. The vapor streams from these processes are routed to the RTOs where approximately ninety percent of the VOC and TAP pollutants are destroyed prior to being released to the atmosphere. Fugitive emissions throughout the either production process (particleboard and surface coating) are minimized as much as practically possible.

**(viii) Have physical site characteristics been studied; what has been done in terms of a geotechnical investigation?**

A. Geotechnical investigations have been performed in an effort to determine the existence of an acceptable foundation for the 2001 modernization project. Twenty-two borings were driven to a depth of twenty feet and the subsurface geology was classified. The site is located on flat level ground with approximately four to six inches of top cover. A stiff clay layer was noted from a depth of six inches below the surface to approximately eighteen feet below the surface. The clay layer has an unconfined compressive strength of approximately 2 tons per square feet. A dense silty sand was noted from eighteen feet and through boring termination at twenty feet. Groundwater was encountered in the boreholes at nineteen feet below the surface. It should be noted that the water level fluctuates with

climatic conditions. No soil samples were analyzed for any type of contamination, but the presence of any odors was not noted in the report.

As mentioned earlier, the LPB Plant is currently permitted to discharge stormwater runoff, boiler blowdown, and treated sanitary wastewater to the Dugdemona River via Madden Creek under LPDES Permit No. LAG480000. LPB has an excellent record of compliance associated with monitoring parameters established for effluent discharges.

According to the Louisiana Office of State Climatology, the thirty-year precipitation average for the Simsboro, Louisiana vicinity is 53.41 inches. The thirty-year mean average temperature for the Simsboro, Louisiana area is 63.8 °F.

As stated earlier two aquifers are located within this area. The Cockfied Sand, which is used primarily for irrigation purposes, is the shallower aquifer, and the Sparta Aquifer is the deeper aquifer that is used for the municipal water supply in the north central portion of the state. The two aquifers are not hydraulically connected. As per the drilling log of the facility water well, the Sparta Aquifer is located at a depth of approximately 600 feet below ground surface. The top of the Sparta Aquifer is bound by a 50 feet thick hard shale and the base is bound by a thicker hard shale.

As per the aforementioned geotechnical investigation, no areas of subsidence have developed or are expected to develop in the future.

**Q. Are there mitigating measures which would offer more protection to the environment than the facility as proposed without unduly curtailing non-environmental benefits?**

**(i) Is this facility part of a master plan to provide waste management? Whose plan?**

A. The LPB Plant is not a waste management facility nor is it part of a waste management plan which serves a particular geographical region. No wastes are treated, stored, or disposed of on-site. Hazardous waste that is created onsite is transported offsite and either disposed of properly or treated for reuse. Industrial waste and general trash are disposed of offsite in a permitted industrial landfill.

**(ii) Does this facility fit into an integrated waste management system?**

The LPB Plant is not a waste management facility nor is it a part of any onsite or regional waste management system. No wastes are treated, stored, or disposed of onsite.

**(iii) Can waste be disposed in another fashion?**

A. The LPB Plant makes a concerted effort to minimize waste. Whenever possible, material and machinery parts are recycled and reused. This is done in an effort to reduce both operating costs and use of landfill space.

**(iv) What quality assurance control will be utilized to protect the environment?**

A. LPB employs a full-time Environmental Manager onsite to aid in ensuring continued protection of the environment. In addition, all facility employees receive annual training on environmental topics.

Reject material is reentered into the manufacturing process in an effort to minimize waste. Off-spec wastes are disposed of in a permitted industrial landfill. Waste profiles have been established with the landfill for all industrial wastes generated at the facility. The issue of incompatible wastes is moot. Containerized wastes, especially used oil, are stored in properly marked tanks and recycled. Hazardous wastes, when generated, are also stored in labeled containers and disposed of properly.

**(v) Are there any innovative techniques to control release of waste or waste constituents to the environment.**

A. LPB makes a concerted effort to ensure that no waste or waste constituents are accidentally released to the environment.

The facility operates under an LPDES water discharge permit that requires the development of a Stormwater Pollution Prevention Plan (SWP3). The facility is also required to prepare and implement a Spill Control and Countermeasure (SPCC) Plan. The SPCC plan is reviewed at least every three years and certified by a registered Professional Engineer (P.E.). The plans identify specific areas where the potential exists for accidental releases. Tanks and containers greater than 660 gallons are located within secondary containment areas. In addition, procedures for control cleanup, and reporting of accidental releases are also included in the plans.

LPB employs a full-time cleanup crew to ensure that the manufacturing area remains clean of excess wood material. A series of screens and weirs are installed in two separate locations to filter the wood material from the stormwater runoff. As a result of the modernization project, a building was been constructed for storage of the raw material. This aids in improving both stormwater quality and reducing fugitive air emissions. An oxidation pond is used for the treatment of sanitary wastewater, and the effluent is disinfected prior to discharge.

The facility does not operate a Type 3 Woodwaste /Construction Debris landfill. All industrial waste and general trash generated onsite is disposed of properly in a permitted industrial landfill. Waste profiles are maintained on file with the landfill.

The RTOs have been designed and operated to ensure maximum destruction of both VOCs and TAPs. The system is designed so that the operating temperature of the RTO remains in excess of the minimum combustion temperature. If the operating temperature drops below this value, the production process is placed into shutdown mode until normal operation of the RTO resumes. The problem is then evaluated and corrected prior to resuming production. All such instances, which violate a permit requirement, are reported via a letter to the LDEQ.